U.S. Pat. No. 4,672,154, also to Rodgers et al. (Jun. 9, 1987) discloses a cordless stylus which emits a directional electric field from the tip of a conductive pen cartridge sensed by a digitizer tablet having an X-Y coordinate system. U.S. Pat. No. 4,680,430 to Yoshikawa et al. (Jul. 14, 1987) discloses a tablet-like coordinate detecting apparatus including a resistive film for determining the coordinate position data of a point on a plane indicated by the touch of a finger tip or other load. U.S. Pat. No. 4,103,252 to Bobick (Jul. 25, 1978) discloses a position sensing tablet with electrodes located on the boundaries of a sensing region which detects a human touch by the change in capacitive charge caused by the touch which varies the time constant of an RC network which is part of an oscillator. U.S. Pat. No. 4,736,191 to Matzke (Apr. 5, 1988) discloses a touch activated control device comprising individual conductive plates wherein a user's touch on the dielectric layer overlaying the plates is detected by individually charging and discharging each of the sectors in the plates in a sequential manner to determine the increased capacitance of the sector. U.S. Pat. No. 4,550,221 to Mabusth (Oct. 29, 1985) discloses a touch sensitive control device which translates touch location to output signals and which includes a substrate that supports first and second interleaved, closely spaced, non-overlapping conducting plates. U.S. Pat. No. 4,639,720 to Rympalski et al. (Jan. 27, 1987) discloses an electronic sketch pad which contains a graphics input pad having an array of transparent capacitive pixels, the capacitance characteristics of which are changed in response to the passing of a conductive tipped stylus over the surface of the pad. European Patent Publication 574,213 to Miller (filed Jul. 6, 1993,) discloses a proximity sensor includes a sensor matrix array which senses changes in capacitance between horizontal and vertical conductors connected to the position sensing pad to determine x, y & z position information)).

[0013] Among recent additions to the position sensing pad art is U.S. Pat. No. 5,305,017 to Gerpheide (Apr. 19, 1994). The devices and methods of the Gerpheide patent include a touch sensitive input pad upon which a user conveniently inputs position information with a finger. In operation, the user's finger tip is brought in close proximity to the top surface of the position sensing surface of the touch sensitive pad. The device of the Gerpheide patent detects the position of the finger tip in the horizontal ("x") and vertical ("y") directions of the touch pad as well as the finger's proximity in the z direction in relation to the sensing surface. A device with a relative position sensing surface which is primarily operated by the touch of an operator's finger is commonly called a touch pad. In addition to a finger, Gerpheide's and many other touch pads can also be operated by other conductive objects.

[0014] Touch pads detect a finger placed on or near the sensing surface and translate movement of the finger into corresponding movement of a cursor on a display screen. One advantage of using a touch pad as an input device is that space is conserved. More specifically, the touch pad can be fixed in place and an operator can still manipulate a cursor on a display screen. This characteristic is very important when space constraints are at a premium.

[0015] Specifically, with regard to touch pad technology, touch pads have been modified for additional user friendliness through the addition of feedback systems. Touch pads with tactile feedback systems were developed to assist an operator in determining through touch where the operator's finger is resting in relation to different touch pad regions. An example of tactile feedback is disclosed in co-owned, co-pending International Publication Number WO 9718546 to Gerpheide (filed Nov. 12, 1996,) herein incorporated by reference. The tactile feedback disclosed by Gerpheide includes a combination of textures and raised ridges on the pad surface to indicate programmable "button" portions which, when tapped, execute a function programmably assigned to that button.

[0016] Touch pads with auditory feedback were developed to assist an operator in determining when a portion of the touch pad has been selected. One example of an auditory feedback includes a microprocessor using the PC speaker to emit a tone to indicate a selection has been made. However, as with the touch screen display system, this audible feedback is subject to the processor's response time, and may be slow.

[0017] Touch pads have also been adapted to perform additional functions by defining numeric or alphanumeric key pads on a portion of the surface of a touch pad. More recently, touch pads have also been adapted by adding a stylus and pattern recognition software for recognizing signatures and handwriting such as commercially sold by Advance Recognition Technologies, Inc. of Chattsworth, Calif., and CyberSIGN, Inc. of Santa Clara, Calif.

[0018] In addition to the many advantages provided by touch pads existing in the art, disadvantages also exist, both generally as previously mentioned, and when existing touch pads are applied to particular applications. First, existing touch pads, even those with enter zones on the touch pad surface, require a combination of operator taps on the surface to send a "mouse button click" or "enter/select" command to the host computer. For example, a slow and hard, down-and-up tap motion of the finger is required by some touchpads to generate a "mouse button click" command. The appropriate timing and force for the taps of a given pad, although convenient and efficient for expert users, do take time to learn and can be confusing and even painful for novice users and even expert users on a new system. Furthermore, there are people who, because of physical limitation, are unable to perform the tap combinations required on existing touch pads, or the double-click combination required by existing mouse devices. Second, existing touch pads include many functions which are not needed in many simple applications such as in an information kiosk or other graphical interface. These additional functions may complicate touch pad operation and confuse an operator. Third, existing touch pads are not durable enough for many applications. Due to the thin plastic layer typically used to protect the sensing surface, touch pads may wear or deteriorate after extended or frequent use. Furthermore, the thin plastic layer typically used on the sensing surface of a touch pad may be insufficient to protect the surface from abrasive environments where kiosk systems are typically found such as industrial plants, restaurants, copy centers, hospitals, ATMs,and other environments where a touch pad will be used frequently by one person or frequently by numerous people such as in a library or other information center. Fourth, touch pads which are not completely sealed from external contamination may be inad-